# USER GUIDE

# How to Translate AN8 to B3D format ?

# V00-56

Author : philippe c
email : phc.c @ wanadoo.fr
(remove the space before and after the character @ before to try to use the email address)

Special thanks to : R. Steven Glanville author of ANIM8OR software for his help.

http://www.anim8or.com/

Thanks to WAKO for his help during the tests and the B3D models provided

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# CONTEXT

This document describes how to use the translator AN8 format to B3D format.

AN8 is the format used by ANIM8OR software: http://www.anim8or.com/

B3D is the format used by BLITZ3D software : http://www.blitzbasic.com/

This tool takes into account AN8 or B3D files or a directory ( with AN8 or B3D files) and translate the AN8 files into B3D files, the B3D files are read and optimized . The B3D format is used by BLITZ3D.

This translation could be done in interactive mode or in batch mode.

In interactive mode different parameters are available in order to follow the translation and check it.

At the end of the translation a report lists the translation successful and the AN8 « chunk »[1] not translated .

This software is under the GNU General Public License. http://www.fsf.org/copyleft/gpl.html

It means that you can do what you want of the code of the software: this code has been declared by the author to be Public Domain code.

If you want to improve it, don't hesitate to do it , and if you want to send me a patch or enhancements : you are welcome !

For more information on the procedure to send patch or an enhancement : have a look on annexe 2 (not available in this version).

If you found a bug or you need an enhancement check annexe 3 for more information.(not available in this version).

This document is divided into three main parts :

The first one described how to use the tool.

The second one explains the technique used in B3D format to render an AN8 file into B3D format.(not available in this version).

The third one is annexes that describes in detail different topics.(not available in this version)

1 All the features of ANIM8OR are not supported in B3D format : for more information have a look on annexe 1 « list of AN8 chunk not supported »

# HOW TO USE AN8TOB3D TOOLS ?

## *INSTALLATION*

The software is available at this address :

This software has been tested with this configuration :

Microsoft windows XP, version 2002, service pack 2.

BLITZ3D V1.90

ANIM8OR V0.9

Graphic card NVIDIA Geforce 4 MX 420

AMD Duron processor 1,2Ghtz . 520 MO RAM

Also if you do not use an equivalent configuration the author does not support AN8TOB3D, it means : you have to fix yourself the issues , the BLITZ3D code is provided (send me the patch in order to improve the tool)

Follow the procedure :

1. load the package on you Personal Computer.
2. double click on the package.
3. The installation is automatic.
4. use it.

During installation the AN8TOB3D program is automatically associated to the following extension : .b3d, .md2, .x , .3ds

IT IS A BETA VERSION

## *GRAPHIC USER INTERFACE : MENU*

### FILE

-Open file : select a single AN8 file and translate AN8 file into B3D file and displays it. Or select a B3D file and optimize it in a new B3D file.

If the life is located into the B3D directory which contains all the result files in B3D format , the file is read and displayed no optimization are done.

-Open folder : select a directory that contains AN8 or B3D files . To translate all the files into B3D format use the menu <Tools>

-Open Native file : open a format supported by BLITZ3D just to display it.

-Close

-Quit : quit the AN8TOB3D soft

### TOOLS

-Run Translation : run the translation , this could be used when a AN8 or a B3D file or directory is selected. You can update the original AN8 or the B3D file with ANIM8OR or other software and run the translation again in order to see the result without used again and again the FILE menu.

-Run Transl. & check : if a directory with AN8 or B3D files has been selected a pause is done between each model until the end-user decides to continue.

-Dump B3D file : dump a B3D file displayed in the tool, the report of the dump is stored into the B3D directory and displayed to the user trough the application use for .txt document.

### VIEW

- View : display a panel with the following function
  - Camera zoom in or out when the arrows keys are used

- Camera translation : the camera is moves up/down or left/right
- Camera rotation : the camera turn around the object
- Object Turn : the B3D model turn on the Y axis or the Z axis when the arrows keys are used
- Wire frame : the B3D model is displayed in wireframe
- Reset : reestablish the original position of the B3D model

The arrows keys should be used , depending of the selection different actions could be done.

This panel is displayed only when a B3D model is displayed.

## PREFERENCES

- Language : choose a new language. Exit and relaunch AN8TOB3D application in order to get the new parameters

- Resolution : size of the window and window parameters.

- Set B3D Directory :

  - directory where the B3D files are stored after translation (mandatory). This directory should be created before to set the value into the AN8TOB3D tool.

  This directory is very important in order to retrieve from the B3D file the textures used in the 3D model with ANIM8OR

  The name of the directory that contains your b3d model is for instance : ...\Design**B3DFiles**.

  A directory for the texture is automatically created into the directory by the tool , for instance :

  **.**..\Design\B3DFiles\modelA.b3d

  ...\Design\B3DFiles\modelB.b3d

  ...\Design\B3DFiles\textures\wood.bmp

  ...\Design\B3DFiles\textures\grass.bmp

The directory textures is automatically feed with the textures used in the AN8 format. This is done in order to retrieve and display the textures when the B3D file is loaded into BLITZ3D.

In the B3D file the name of the texture will be for instance : B3DFiles\textures\wood.bmp

If you want to move the B3D files you are obliged to move the directory : **B3DFiles**\. If you move only the B3D file : you lost the textures. In your game you are obliged to find the following directory :

...\MyGame**B3DFiles**\modelA.b3d

...\MyGame**B3DFiles**\modelB.b3d

...\MyGame**B3DFiles**\textures\wood.bmp

...\MyGame**B3DFiles**\textures\grass.bmp

Warning : if you have used different textures with the same name and located into different directories with ANIM8OR the risk is to get a wrong texture in the B3D model. To avoid that take care to the texture file name : use a unique name whatever the location of the texture in the directories.

In this directory a HTML report is automatically generated in order to list the result of the translation.

-AutoClean B3D dir : if this option is chosen the directory of the B3D files and textures is cleaned before to start the B3D generation.

-Display report AN8 : if this option is chosen a report file is displayed at the end of the translation.

-Optimize animation : if this choice is selected the B3D format are optimized ( not AN8 file in this version) .

The vertrices not used are deleted.

The weight not used are deleted

The redundant animation keys are deleted

The nodes not used are deleted

-Split animation : if the choice is selected , the original animation is slitted into :

-one B3D file which contains the mesh, the bone and weight but no animation key

-one ore several B3D files which contains the bone and weight and animation key relative to the animation define in the ".animation" files associated to the original model. The format of the file is defined in the ../data/template.animation. Tis file is accessible into the software directory. The file is organized like that :

The 1st line : extension add to the original file in order to create a separate file

The 2nd line : animation start at this figure

The 3rd line : animation stop at this figure

This three line are repeated for each animation inside the original file.

The split is mandatory if you want to get acceptable performance in your game. If you load a B3D file with all the animations inside the file : the performance are not very good.

To understand how this option works , an example with the file "tia_uv-bis.B3D" is explained in the following pages:

-Dump : this menu set the level of dump ,

level 1 : the dump is short , only nodes are listed.

level 2 : the information associated to the nodes are listed.

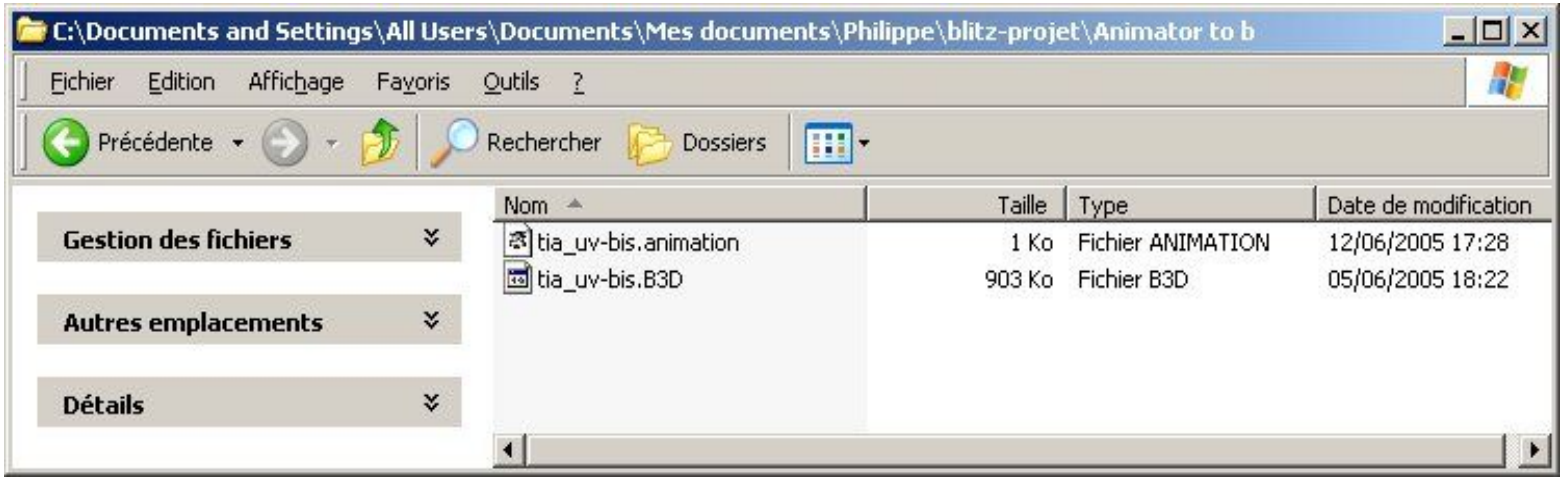
level 5 : all the content of the B3D file is listed.

This value is used when the dump is generated : see menu tools\dump b3d file for more information.

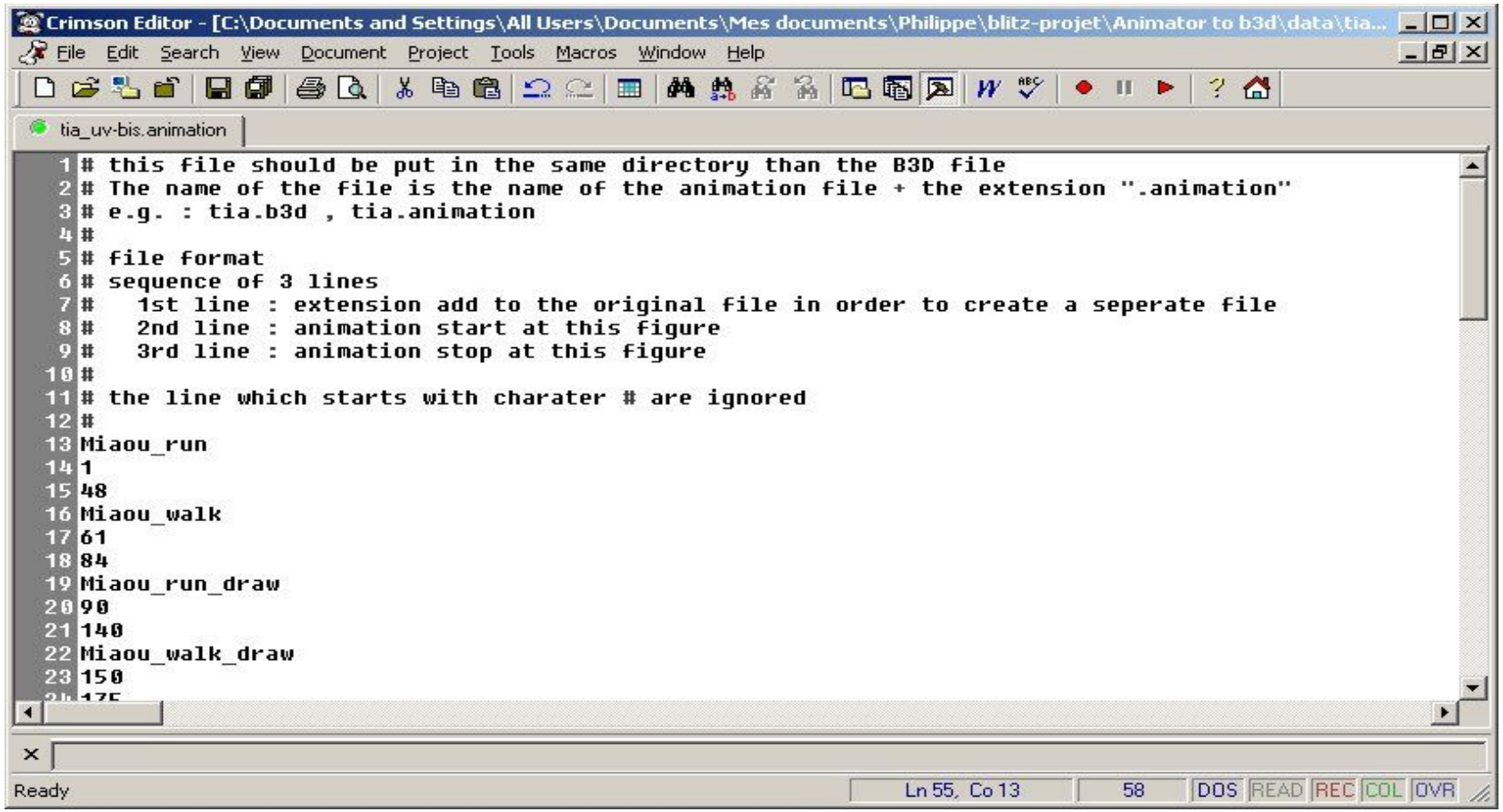
Example of the original files stored in a directory for instance :

tia_uv-bis.animation : see next page for the description

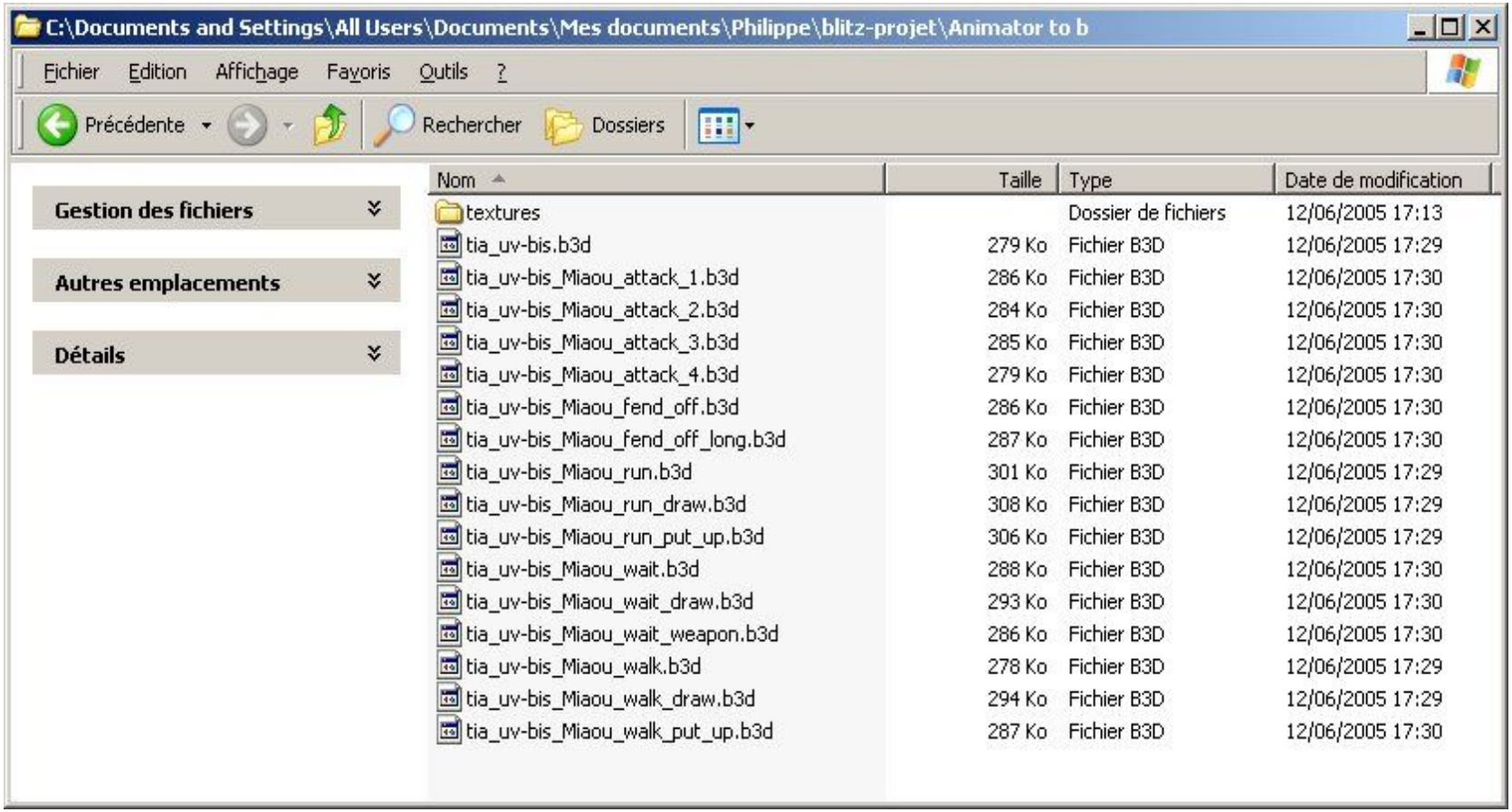
tia_uv-bis.B3D : this b3d file contains all the animation , size = 903 ko



The content of the file “tia_uv-bis.animation “


Crimson Editor - [C:\Documents and Settings\All Users\Documents\Mes documents\Philippe\blitz-projet\Animator to b3d\data\tia...
File Edit Search View Document Project Tools Macros Window Help
tia_uv-bis.animation
1 # this file should be put in the same directory than the B3D file
2 # The name of the file is the name of the animation file + the extension ".animation"
3 # e.g. : tia.b3d , tia.animation
4 #
5 # file format
6 # sequence of 3 lines
7 # 1st line : extension add to the original file in order to create a seperate file
8 # 2nd line : animation start at this figure
9 # 3rd line : animation stop at this figure
10 #
11 # the line which starts with charater # are ignored
12 #
13 Miaou_run
14 1
15 48
16 Miaou_walk
17 61
18 84
19 Miaou_run_draw
20 90
21 140
22 Miaou_walk_draw
23 150
Ready
Ln 55, Co 13
58
DOS READ REC COL OVR

This B3D files are in function of the original B3D files and the content of ".animation" file. The size of the file tia_uv-bis.b3d is 279 ko




| Nom | Taille | Type | Date de modification |
|---|---|---|---|
| textures | | Dossier de fichiers | 12/06/2005 17:13 |
| tia_uv-bis.b3d | 279 Ko | Fichier B3D | 12/06/2005 17:29 |
| tia_uv-bis_Miaou_attack_1.b3d | 286 Ko | Fichier B3D | 12/06/2005 17:30 |
| tia_uv-bis_Miaou_attack_2.b3d | 284 Ko | Fichier B3D | 12/06/2005 17:30 |
| tia_uv-bis_Miaou_attack_3.b3d | 285 Ko | Fichier B3D | 12/06/2005 17:30 |
| tia_uv-bis_Miaou_attack_4.b3d | 279 Ko | Fichier B3D | 12/06/2005 17:30 |
| tia_uv-bis_Miaou_fend_off.b3d | 286 Ko | Fichier B3D | 12/06/2005 17:30 |
| tia_uv-bis_Miaou_fend_off_long.b3d | 287 Ko | Fichier B3D | 12/06/2005 17:30 |
| tia_uv-bis_Miaou_run.b3d | 301 Ko | Fichier B3D | 12/06/2005 17:29 |
| tia_uv-bis_Miaou_run_draw.b3d | 308 Ko | Fichier B3D | 12/06/2005 17:29 |
| tia_uv-bis_Miaou_run_put_up.b3d | 306 Ko | Fichier B3D | 12/06/2005 17:29 |
| tia_uv-bis_Miaou_wait.b3d | 288 Ko | Fichier B3D | 12/06/2005 17:30 |
| tia_uv-bis_Miaou_wait_draw.b3d | 293 Ko | Fichier B3D | 12/06/2005 17:30 |
| tia_uv-bis_Miaou_wait_weapon.b3d | 286 Ko | Fichier B3D | 12/06/2005 17:30 |
| tia_uv-bis_Miaou_walk.b3d | 278 Ko | Fichier B3D | 12/06/2005 17:29 |
| tia_uv-bis_Miaou_walk_draw.b3d | 294 Ko | Fichier B3D | 12/06/2005 17:29 |
| tia_uv-bis_Miaou_walk_put_up.b3d | 287 Ko | Fichier B3D | 12/06/2005 17:30 |

Example of the result get : the main file “tia_uv-bis.b3d”* contains everything except animation keys

*the B3D model is a WAKO production

Example of B3D file with only one animation , in this case “run” :

*the B3D model is a WAKO production

- In blitz3d the following code should be used :

```
miaou  = LoadAnimMesh(“tia_uv-bis.B3D“)
run    = LoadAnimSeq(miaou,”tia_uv-bis_Miaou_run.b3d”)
walk   = LoadAnimSeq(miaou,”tia_uv-bis_Miaou_walk.b3d”)
...
Animate miaou,1,1,run
...
Animate miaou,1,1,walk
...
```

## HELP

Help : browse this document

Credits : thanks to the people who help me or provide software used into the AN8TOB3D.

## *BATCH MODE*

## SYNTAXE

AN8TOB3D -an8 <full name of the file or directory> -b3d <full name of the B3D directory> [-autoclean]

-an8 : mandatory

<full name of the file or directory> : full name of the AN8 file or full name of the directory that contains the AN8 files

-b3d : mandatory

<full name of the B3D directory> : full name of the directory that contains the B3D files

[-autoclean] : option , if it exists the B3D directory is cleaned before to generate the B3D files.

[-optimise] : option, the B3D files existing in -an8 directory are optimized and copied into the -b3d directory

[-split] : option , the files B3D or AN8 existing in the -an8 directory are splited in function of the ".animation" file associated to the an8 or b3d files

Example of syntax to translate a directory

**AN8TOB3D -an8** C:\Documents and Settings\All Users\Documents\Mes documents\Philippe\blitz-projet\game\an8 **-b3d** C:\Documents and Settings\All Users\Documents\Mes documents\Philippe\blitz-projet\game\b3d **-autoclean -optimise -split**

Example of syntax to translate only one file

**AN8TOB3D -an8** C:\Documents and Settings\All Users\Documents\Mes documents\Philippe\blitz-projet\game\wolf.an8 **-b3d** C:\Documents and Settings\All Users\Documents\Mes documents\Philippe\blitz-projet\game\b3d **-optimise -split**

# MODELISATION WITH ANIM8OR

3 different ways to animate are available with ANIM8OR and supported by this tool :

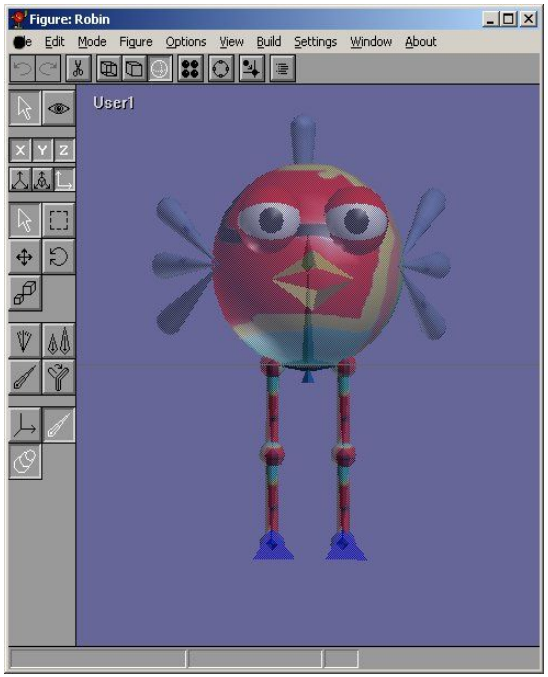



Figure 1

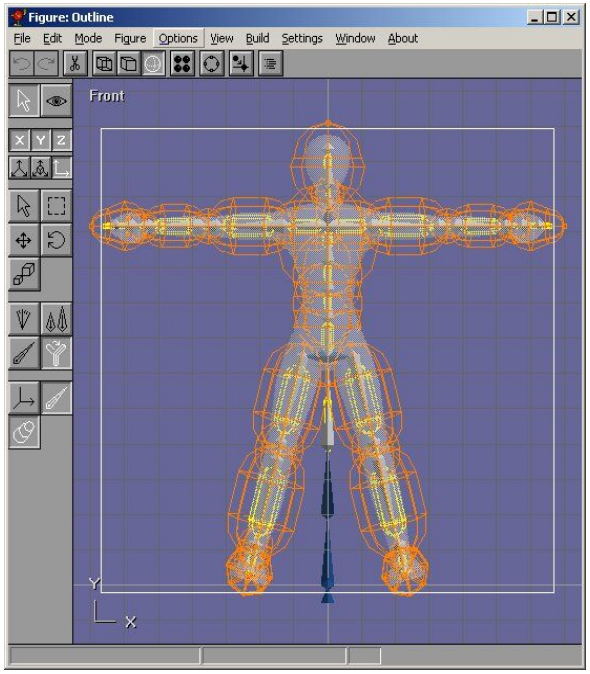



Figure 2

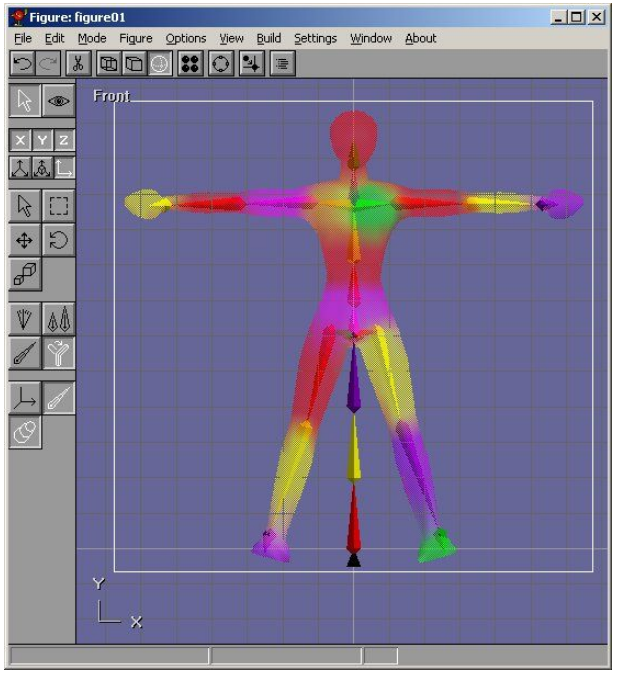



Figure 3

Figure 1 : skeleton + body parts , each body part is associated to the bones

Figure 2 : skeleton + body , an influence volume is associated to each bones

Figure 3 : skeleton + body, a skinning weight is associated to each bones

For more information see reference manual : http://www.anim8or.com/manual/5_figure_editor.html

# KNOWN LIMITATION

The translator form AN8 format to B3D had a limitation in the structure of the bones .

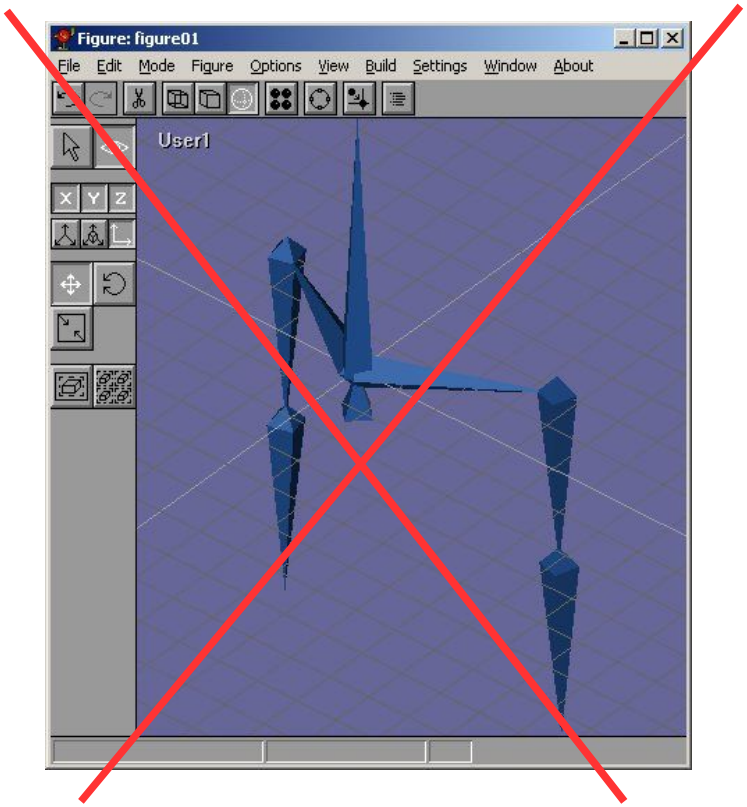



Figure 1 : not supported => wrong animation

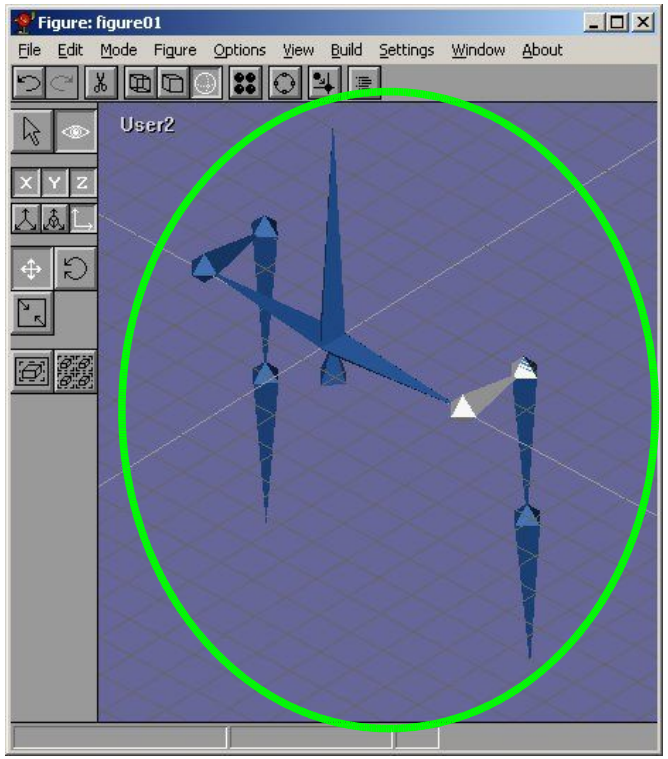



Figure 2 : supported => workaround

Figure 1 : this is not well supported by the tool , in this case the result of the animation could be really bad. If you have an idea to fix it : have a look on the program “translateIntoB3d.....bb” the function to fix is “b3dBeginChunkKeys”. See comment in function for more information.

Figure 2 : it is a workaround , but it works fine , if you want a good result do your figure like that : only 90degrees angles between bones in the figure.

# ANNEXES

## *ANNEXE 1 : AN8 format supported and not supported*

List of ANIM8OR toggles not supported : for more information http://www.anim8or.com/manual/index.html

- header
- description
- environment
- scene
- ambient
- specular
- emissive
- phongsize
- environment map
- lockambiantdiffuse
- phong
- phongsize
- backsurface
- diffuse : rgb, factor, textureparams
- image
- modifier
- path
- textcom
- dof
- divisions
- edges
- geodesic
- normal
- smoothangle
- working

## *ANNEXE 2 : send a patch to the author*

The source is available on the web site : http://perso.wanadoo.fr/philippe.c/

If you want to enhance or correct an issue don't hesitate to do it , modify only what is needed to change, don't reorganize all the program. Just add or delete what is needed. Send to the author only the files updated with an explanation and the test files.

## *ANNEXE 3 : bugs and enhancements*

If you find a bug or you need an enhancement, write to the author , explain with an example what you need ,send the test files and describe the expected result.